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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,878	09/22/2003	Hidenori Takeshima	243058US2SRD	4221

22850 7590 09/20/2005

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EXAMINER	
WANG, JIN CHENG	
ART UNIT	**PAPER NUMBER**
2672	

DATE MAILED: 09/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/664,878	TAKESHIMA ET AL.	
	Examiner	Art Unit	
	Jin-Cheng Wang	2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-45 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-45 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 10/2/03,10/5 &2/11.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-45 are rejected under 35 U.S.C. 102(e) as being anticipated by Brown et al. U.S. Patent No. 6,665,342 (hereinafter Brown).

Re Claims 1, 25, 27, 34, and 35:

Brown discloses an image composition method for generating a strobe composite image from a plurality of frames of a moving image, the method comprising:

Selecting a first frame from the plurality of frames of the moving image (*e.g., selecting a first frame 315A of Fig. 4 from the plurality of frames of the video wherein the first frame is a still frame*);

Determining a plurality of second frames relating to the first frame (*e.g., starting with the first two frames 315A and 315B to compute the attribute difference for each pair of point-wise pixels in the two frames, and updating the segmentation mask and the strobe photo; see Figs. 4-6 and column 7, lines 45-59*);

Setting a superposing manner for the strobe composite image (*e.g., setting the attribute difference threshold, user entering the strobe parameters such as the start frame, the end frame,*

and the time interval and thereby setting how a strobe composite image is synthesized; see column 6, lines 63-67);

Generating the strobe composite image by superposing the plurality of second frames in accordance with the set superposing manner (*e.g., updating the strobe photo by superposing the plurality of the video frames using the iterator 520, i.e., the strobe photo is updated/composited using the plurality of video frames of the moving object and the composition is performed in accordance with the set superposing rule and the segmentation mask; see column 7-8*).

Claim 2:

Brown further discloses determining the plurality of second frames based on a reference frame whose time corresponds to the time obtained by shifting the time of the first frame a certain time (e.g., column 6, lines 63-67).

Claim 3:

Brown further discloses selecting a frame corresponding to one of start and end frames upon superposing the plurality of second frames (e.g., column 6, lines 63-67).

Claim 4:

Brown further discloses selecting a third frame from the moving image (e.g., column 7, lines 45-59), and wherein determining the plurality of second frames includes determining the second frames based on the time of the first frame, and the time of the third frame (e.g., column 6, lines 63-67).

Claim 5:

Brown further discloses selecting a frame of interest in which a user is interested (e.g., column 6, lines 63-67); displaying the frame of interest and the frame near to the frame of interest (e.g., Figs. 4-5) and determining the frame of interest as the first frame (e.g., Figs. 4-5).

Claim 6:

Brown further discloses setting a manner of superposing a frame at a later time on a frame at an earlier time in turn, or a manner of superposing a frame at an earlier time on a frame at a later time in turn (e.g., column 7, lines 45-59).

Claim 7:

Brown further discloses recording setup information of the superposing manner (e.g., storing and updating the segmentation mask and the strobe photo; see column 7-8).

Claim 8:

Brown further discloses generating another strobe composite image by applying the setup information to another moving image (See Figs. 2, 4 and 6).

Re Claims 9, 26, 35 and 45:

Brown further discloses displaying the strobe composite image (Figs. 2, 4 and 6); designating one of the plurality of second frames as a designated frame (e.g., Figs. 2-5) and changing a superposing order of the designated frame to an order different from a superposing order before designation (*e.g., users setting the strobe parameters such as the start frame, the end frame and the time interval for sampling the frames so that Brown teaches an original sequence of the frames and a new sequence of frames by changing the strobe parameters and changing the superposing order by changing the start frame, the end frame and the time interval of sampling; column 6*).

Re Claims 10, 28, 37 and 43:

Brown teaches an image composition method comprising:

Inputting a moving image (inputting a video sequence of frames; Fig. 5);

Holding latest N frames of the moving image (e.g. the latest two frames in Fig. 4 and the latest n frames in Fig. 5);

Accepting a one-click-instruction from a user (e.g., user sets the strobe parameters and all other parameters and runs the strobe process with one-click instruction on a graphical user interface wherein Fig. 1 shows GUI for user interface for the digital strobe process);

Generating a strobe composite image by superposing the latest N frames (e.g., Figs. 2, 4-5) in response to the one-click-instruction (e.g., Fig. 1).

Re Claims 11 and 44:

Brown discloses an image composition method comprising:

Inputting a moving image (*inputting a video sequence of frames; Fig. 5*);

Holding latest N frames of the moving images (*e.g., the latest two frames in Fig. 4 and the latest n frames in Fig. 5*);

Detecting from the latest N frames a feature frame that conforms to a strobe image composition condition (*e.g., the feature frame is a frame wherein the difference exceeds the change detection threshold; see column 7, lines 45-59*); and

Generating a strobe composite image by superposing the latest N frames when the feature frame is detected (*e.g., updating the strobe image as well as the segmentation mask when the feature frame is detected; see column 7, lines 45-59*).

Claim 12:

Brown further discloses making a user select one of a plurality of image composition parameter values which can be used for generation of the strobe composite image (*e.g., column 6, lines 63-67*).

Claim 13:

Brown further discloses applying a plurality of image composition parameter values which can be used for generation of the strobe composite images (*e.g., column 6, lines 63-67 and column 8, lines 5-10 and column 7, lines 15-25*).

Re Claims 14, 29, 38:

Brown discloses an image composition method comprising:

Inputting a first moving image (*e.g., inputting a first moving object at one or more locations wherein the moving objects include the shark tail and the shark head; Figs. 4-6 and column 8, lines 26-48*);

Inputting a second moving image (*e.g., inputting a second moving object at one or more locations wherein the moving objects include the shark tail and the shark head; Figs. 4-6 and column 8, lines 26-48*);

Inputting answer object regions for respective frames of the first moving image (*e.g., the relevant motion is detected at one or more object locations/regions, inputting the one or more object locations/regions as the answer object regions for respective frames to the segmentation mask at the corresponding locations and update the strobe photo wherein the object regions are related to the image objects such as the shark tail and the shark head representing the object regions. Accordingly, the segmentation mask records locations in the frames in which changes have occurred and being updated; see Fig. 6, column 7, lines 28-44 and column 8, lines 26-48*);

Extracting a plurality of answer object images from the respective frames of the first moving image using the answer object regions (*e.g., extracting the pixel information associated with the one or more object locations/regions from the respective frames containing the one or more moving images such as the shark head and the shark tail representing the object regions; see Fig. 6; column 7, lines 28-44 and column 8, lines 26-48*);

Generating an answer strobe composite image in which the plurality of answer object images are superposed (*e.g., superposing effect can be seen in Fig. 6 which represents a series of the object regions as the object(s) moves along a certain direction; see also column 8, lines 26-48*);

Determining an extraction parameter which depends on the answer strobe composite image (*e.g., column 8, lines 1-25 describes a number of extraction parameters*);

Extracting object images from respective frames of the second moving image using the extraction parameter (*e.g., extracting the pixel information associated with the one or more object locations/regions from the respective frames containing the one or more moving images; see column 7, lines 28-44 and column 8, lines 26-48*);

Generating a strobe composite image in which the object images extracted from the respective frames of the second moving image are superposed (*e.g., Fig. 6 and column 8, lines 26-48 wherein the strobe images are displayed*).

Claim 15:

Brown further discloses detecting temporary object regions from the respective frames of the first moving image using a temporary extraction parameter (e.g., the temporary object regions associated with the shark head and the shark tail are detected as the moving objects associated with a plurality of the frames in the video sequence wherein the temporary extraction parameter is the confidence limit based on the previous motion statistics; Fig. 6; column 7, lines 28-44 and column 8, lines 26-48); extracting a plurality of temporary object images from the respective frames of the first moving image using the temporary object regions (e.g., a plurality of temporary object image pixels associated with the shark tail and the shark head are extracted and put in the segmentation mask; see Fig. 6; column 7, lines 28-44 and column 8, lines 26-48); generating a temporary strobe composite image in which the plurality of temporary object images are superposed (e.g., updating the segmentation mask and the strobe photo when the motion exceeds the change detection criteria; see column 7-8); calculating an error between the answer strobe composite image and the temporary strobe composite image (e.g., the false-tolerance allows the error correction being made by monitoring the motion history record and updating the strobe photo if the statistics allows it; see column 8) and repeating the above steps while changing the temporary extraction parameter and determining the temporary extraction parameter which minimizes the error as the extraction parameter (e.g., the confidence limit

depends on the history record and thus changes at the next iteration of the video sequences; column 8).

Re Claims 16 and 30, 39:

Brown discloses an image composition method for generating a strobe composite image by superposing a plurality of frames of a moving image, the method comprising:

Displaying respective frames of the moving image sequentially (e.g., Figs. 4-6);

Selecting a reference frame from the respective frames displayed (e.g., the reference frame being the background image; column 7-8);

Determining a plurality of frames to be subjected to strobe composition based on the reference frame (e.g., column 7-8); and

Generating a strobe composite image by superposing the plurality of determined frames (e.g., column 7-8).

Claim 17:

Brown further discloses setting a time interval (column 6, lines 62-67); between the respective frames for displaying the respective frames (column 6, lines 62-67).

Claim 18:

Brown further discloses determining a switching frame at which a superposing manner is switched and wherein generating the strobe composition image includes switching the superposing manner between an overlay manner and an underlay manner before and after the switching frame (e.g., column 7-8).

Re Claims 19, 31 and 40:

Brown discloses an image composition method comprising:

Determining frames corresponding to start points of strobe composition (e.g., column 7-8 and Figs. 4-6);

Generating strobe composite images by superposing frames in turn based on each of the start points (e.g., Figs. 4-6 and column 7-8) and

Displaying the strobe composite images sequentially (e.g., Figs. 4-6 and column 7-8).

Claim 20:

Brown further discloses setting a time interval for sequentially displaying the strobe composite images (e.g., column 6, lines 62-67 and Figs. 1-6).

Claim 21:

Brown further discloses determining a switching frame at which a superposing manner is switched and wherein generating the strobe composite images includes switching the superposing manner between an overlay manner and an underlay manner before and after the switching frame (e.g., column 7-8).

Claim 22:

Brown further discloses determining a plurality of frames to be subjected to strobe composition (e.g., column 7-8).

Re Claims 23, 32 and 41:

Brown discloses an image composition method for generating a strobe composite image by superposing a plurality of frames of a moving image, the method comprising:

Inputting a feature point of an object (e.g., inputting the feature point such as the shark tail and the shark head of the moving shark; see column 8);

Obtaining a locus pattern by racing the feature point in the strobe composite image (e.g., the locus trajectories or velocity associated with the shark tail and the shark head are drawn in Fig. 6);

Analyzing a motion pattern of the object on the basis of the obtained locus pattern (e.g., column 8, lines 26-48 describes the shark locomotion).

Re Claims 24, 33 and 42:

Brown discloses an image composition method for generating a strobe composite image by superposing a plurality of frames of a moving image, the method comprising:

Extracting an image of an object region from a currently captured frame in real time (e.g., column 7-8);

Designating a reference frame for the strobe composite image (e.g., Figs. 4-6 and column 7-8); and

Generating the strobe composite image by superposing the image of the object region on the reference frame (e.g., Figs. 4-6 and column 7-8).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jin-Cheng Wang whose telephone number is (571) 272-7665. The examiner can normally be reached on 8:00 - 6:30 (Mon-Thu).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mike Razavi can be reached on (571) 272-7664. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jcw

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